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PaperPick

Introducing ESCRTs II and III

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As someone who likes solving the molecular puzzle of protein complex assembly, I enjoyed reading two back-to-back articles by Scott Emr and colleagues describing the ESCRT-II and ESCRT-III components of the multivesicular body (MVB)-sorting machinery. Not only was the biochemical evidence top notch, it was also firmly grounded on the genetics of the system. These studies, together with the previous identification of ESCRT-I by the same group published in *Cell* a year earlier, set the basis for all current analyses of MVB formation and function. Thanks to this work, what was once just a tantalizing morphological entity took center stage in studies of the targeting of transmembrane proteins for degradation in lysosomes. Moreover, the ability of the ESCRT complexes to sculpt intraluminal vesicles from the limiting membrane of endosomes turned out to mediate other important biological processes such as membrane scission during cytokinesis and the release of enveloped viruses, thus becoming a paradigm for membrane budding away from the cytosol.

This PaperPick refers to "Escrt-III: An Endosome-Associated Hetero-oligomeric Protein Complex Required for MVB Sorting" by M. Babst, D.J. Katzmann, E.J. Estepa-Sabal, T. Meerloo, and S.D. Emr and "Endosome-Associated Complex, ESCRT-II, Recruits Transport Machinery for Protein Sorting at the Multivesicular Body" by M. Babst, D.J. Katzmann, W.B. Snyder, B. Wendland, and S.D. Emr, both published in August, 2002.